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Class Test-1, Summer 2025

Course Code: CIS221, Course Title: Information System Engineering

Time: 35 Minutes **Marks: 15**

Name:	**ID:**
Section:	**Date:**

1. A retail store manager is responsible for overseeing daily operations, ensuring customer satisfaction, and maintaining inventory levels. They need to track product availability, monitor staff schedules, and ensure that sales targets are achieved. Additionally, they must analyze sales data, identify underperforming products, and implement cost-effective marketing strategies to boost revenue. The store must also comply with consumer protection regulations and submit reports on financial performance and workplace safety.

   Based on the scenario, explain how each type of information helps in making better decisions. [5]

2. A software company is hired to develop a library management system for a university. The client provides all the requirements at the beginning of the project and insists that no changes will be made once the development begins. The development team completes each phase—requirement gathering, system design, implementation, testing, deployment, and maintenance—one after another in a linear sequence. The team only moves to the next phase after the previous phase is fully completed and approved by the client. There is no overlap between phases, and feedback is not considered until the final product is delivered.

   Based on the scenario, which System Development Life Cycle (SDLC) model is being followed? Justify your answer. [5]

3. Explain different types of systems with examples.

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Marks:

Department of Computing and Information System (CIS)

Class Test-2, Summer 2025

Course Code: CIS221, Course Title: Information System Engineering

Time: 30 Minutes **Marks: 15**

Name:	**ID:**
Section:	**Date:**

1. **Draw a Use Case Diagram for "Online Food Ordering System".** [5]

2. A Hospital Management System is being developed. Patients can register and log in to the system, search for doctors by specialty, book appointments, and receive confirmation. Doctors can view their schedules and update appointment status. The system stores patient details, doctor information, and appointment records.

   Based on the scenario, draw DFD (Level 0 & 1) for the above system. [10]

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Marks:

Department of Computing and Information System (CIS)

Class Test-3, Summer 2025

Course Code: CIS221, Course Title: Information System Engineering

Time: 30 Minutes **Marks: 15**

Name:	**ID:**
Section:	**Date:**

1. Draw an ER Diagram from the following Relational Schema: [5]

- Entities
  - Route (number, departure, destination)
  - Driver (Id, name, phone)
  - Bus (license, capacity)
- Weak Entity
  - Schedule (number, departure-time)
- Relationships
  - Drives (number, departure-time, Id)
  - Bus-in-use (license, number, departure-time)

2. Explain the 3-Tier Architecture of a Database System with a suitable diagram. [5]

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3. A healthcare organization stores sensitive patient data in its central database system. Recently, an employee accidentally clicked on a phishing email, leading to unauthorized access to confidential records. This incident has raised serious concerns about the organization's data protection measures and risk management strategies.

   Explain the steps you would take to improve the organization's system security and prevent similar incidents in the future. [5]